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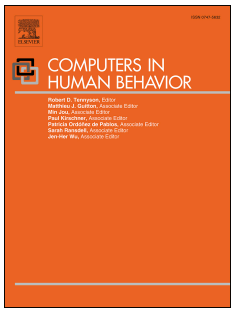

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The Effect of Synchronous and Asynchronous Computer-Mediated Communication (CMC) on EFL Learners' Pragmatic Competence

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The Effect of Synchronous and Asynchronous Computer-Mediated Communication (CMC) on EFL Learners' Pragmatic Competence

Abstract

The aim of this study was to explore the effect of computer-mediated communication (CMC), as compared with traditional face-to-face instruction, on the acquisition of the request speech act. It also examined the differential impacts of synchronous and asynchronous CMC modes on pragmalinguistic and sociopragmatic competences. The participants were 106 Iranian EFL learners who received the treatment via synchronous (Syn), asynchronous (Asyn), and face-to-face (F-F) instruction types for eight sessions during an intensive extracurricular program. During each of the treatment sessions, the participants received the metapragmatic instruction; watched computerized video clips on requests; and then were paired with a partner to discuss some prescribed questions and to create their own dialogues based on the given situations. During this phase, they were engaged in synchronous text-based chat, asynchronous text-based chat, or face-to-face discussion, based on their group assignment. Prior to and after the treatment, the written discourse completion test (WDCT) pretest and post-test were administered. The data analysis by an ANCOVA and a series of *t*-tests showed the superiority of CMC-oriented instruction over F-F instruction. While no significant difference was found between Syn and Asyn groups in their post-test performance, they performed differentially on some measures of pragmalinguistic and sociopragmatic competences. The findings have

pedagogical implications for EFL teachers, practitioners, and courseware designers to use CMC affordances for delivering pragmatics instruction.

Key words: asynchronous CMC, computer-mediated communication (CMC), interlanguage pragmatics (ILP), synchronous CMC

1. Introduction

Pragmatics, defined as the study of "how-to-say-what-to-whom-when" (Bardovi-Harlig, 2013, pp. 68-69), is one of the most important aspects of second language acquisition (SLA). To act in pragmatically appropriate ways in second language (L2), learners need to be aware of pragmatic norms governing the target language use. Pragmatic competence is generally divided into two components: pragmalinguistic competence and sociopragmatic competence. The former refers to the linguistic resources that learners use to perform language functions; the latter refers to one's understanding of the rules governing L2 socially appropriate linguistic behavior (Kim & Taguchi, 2015). For example, through the sociopragmatic knowledge, the speaker may recognize a higher status of the interlocutor and the need to address him/her courteously, while pragmalinguistic knowledge enables the learner to implement a courteous speaking by allotting him/her the choices like address terms, strategies, and formulaic expressions.

Generally, successful communication necessitates the knowledge of pragmalinguistic and sociopragmatic rules. Without this knowledge, participants may misconstrue each other and fail to achieve their communicative goals. Those lacking in these competences may appear inconsiderate, rude, and unsophisticated to more competent interlocutors. As asserted by McNamara and Roever (2006), lack of sociopragmatic abilities

causes the speaker to be "unintentionally offensive, too outspoken or incomprehensible", whereas pragmalinguistic incompetence causes the individual to be excluded from the conversation (p. 55). While there is a general consensus that the knowledge of form-function-context mapping is necessary to communicate successfully in L2, ample evidence exists that even highly proficient learners in terms of lexical and grammatical competences may show variable mastery of pragmatics (Bardovi-Harlig, Mossman, & Su, 2017). A number of factors like students' limited exposure to L2 pragmatic features, negative transfer of pragmatic features from their L1, under-representation of particular speech acts in the textbooks, and the focus of educational systems on morphosyntactic rather than pragmatic and discourse features account for such an underperformance.

The fundamental role of pragmatic competence in L2 acquisition and L2 learners' failure to act in pragmatically appropriate ways bear witness to the importance of implementing a pragmatically focused instruction. Since L2 learners have limited opportunities for naturalistic pragmatic development, formal instruction remains the main source of acquiring the knowledge of form-function-context mapping. Thus far, a number of studies (e.g., Abrams, 2003, 2008; Alcon & Pitarch, 2010; Eslami-Rasekh, Mirzaei, & Dini, 2014; Halenko & Jones, 2011; Mirzaei & Esmaeili, 2013; Taguchi, 2015) have addressed the effect of instruction on development of L2 pragmatics aspects, providing evidence on the facilitative effects of instruction on L2 pragmatics development.

The necessity of pragmatics instruction on one hand, and the "complexity of pragmatics instruction and assessment" (Sykes, 2005, p. 404) on the other

hand, demand adopting innovative and effective approaches to instruction so as to promote learners' awareness of L2 pragmatic norms. A possible pedagogic intervention might be to provide opportunities for L2 learners' authentic interactions via the affordances of new technologies and to apprentice them into novel pedagogic practices. Computer-mediated communication (CMC) is likely to provide powerful tools for enhancing the quantity and quality of interactions, enabling L2 learners to adopt a number of roles and practice varied discourse functions (AbuSeileek, 2013). According to Sykes (2005), computer-assisted language learning (CALL) technologies enable "presenting pragmatic-based materials in a contextualized, authentic, and personalized manner, while at the same time addressing other language skills" (p. 399).

Despite the affordances offered by technological tools for L2 pragmatics instruction, few studies have delved into this issue in breadth and depth (e,g., Cohen & Ishihara, 2005; Eslami-Rasekh & Liu, 2013; Lin, 2015). This might partially be due to the fact that the interaction between the computer-mediated technology and L2 pragmatics does not have a long history and remains a topic of interest in recent decades. Moreover, previous research treated the pragmatic competence as a general construct, not providing separate accounts of the relative effectiveness of the interventions on two sub-components of pragmatic competence, namely pragmalinguistic and sociopragmatic competences. This study thus aimed to contribute to the growing literature by exploring the interface between pragmatics instruction and CMC affordances. It investigates whether the pragmalinguistic and sociopragmatic gains differ

when learners are exposed to face-to-face, synchronous CMC, and asynchronous CMC instruction types.

2. Computer-mediated communication (CMC)

So far, the incorporation of CMC tools in L2 classes has opened new paths to language learning, and due to the potentialities of this technology, the field of SLA has witnessed radical changes in pedagogical practices. Learners may engage either in the synchronous real-time CMC like video-conferencing or the asynchronous delayed-time CMC like email (Abrams, 2003). According to Abrams (2003), the synchronous and asynchronous CMC modes are similar and different in a number of ways. They are similar in terms of the opportunities they provide for joint learning, more talk time for each learner, an increased amount of output, and developing writing skills. They are different in that the synchronous mode requires immediate response and does not normally allow for the use of external resources; however, the asynchronous mode permits planning time the external support. Due to the real-time nature of the synchronous mode, interlocutors are simultaneously present, but in the latter one, there might be a time lapse between the messages.

Previous literature has acknowledged the benefits associated with CMC in fulfilling the pedagogical objectives and the solutions offered by it to some educational barriers. According to previous studies, affordances provided by CMC include the provision of authentic materials (Blake, 2011), creating a highly participatory and rather democratic medium of communication whereby all learners can express their own voice (Kim, 2000), establishing a more positive collaborative-learning context and a more interactive discourse

(Abrams, 2003), and socialization opportunities with specific discourse communities (Yang, 2014). Sykes (2005) argued that CMC serves as a valuable tool for resolving some problems that are not easily settled in traditional face-to-face educational contexts. It enables the simultaneous focus on micro- and macro-level skills. It takes into account the personality traits across the students and allows for more individualized instruction.

The incorporation of computer technology in educational instructional interventions has been supported by theoretical assumptions as well. According to Yim and Warschauer (2017), the collaborative technology has expanded the forms and patterns of collaborative work, transferring the literacy practices via the affordances of the new technology. These new forms of communicative practices enable incorporating the sociocultural theory (SCT) (Vygotsky, 1978) assumptions into L2 instructional cyber-contexts. SCT postulates that the human mind is mediated by material tools (e.g., computers), psychological tools (e.g., language), and other human beings. It is the individuals' interactions in the social milieu that trigger their cognitive development. Nguyen (2008) contended that CMC can be regarded as a technical and a linguistic tool for mediation, providing a variety of affordances like combining the text, audio, and video with hyperlink and hypermedia features and enabling the multi-dimensional communication, including one-alone, one-to-one, one-to-many, and many-to-many.

3. CMC and L2 pragmatics

The effectiveness of instruction delivered via the computer-mediated technology on interlanguage pragmatics (ILP) has been explored in some studies (e.g., Cohen & Ishihara, 2005; Eslami-Rasekh & Liu, 2013; Eslami-

Rasekh, et al., 2014; Lin, 2015; Mirzaei, Hashemian, & Khoramshekouh, 2016). All of these studies reported the improved pragmatic performance attached to the incorporation of different computer-mediated tools in the design of instructional approaches either separately as a self-sufficient approach or integrated with traditional approaches in a blended learning context. In a meta-analysis, Lin (2015) reported the results of a synthesis of studies addressing the effect of CMC, during a 10-year period, on four language skills (listening, speaking, reading, and writing) as well as three language components, including vocabulary, pronunciation, and pragmatics. The calculation of the effect sizes showed a negative effect for vocabulary learning, a small effect on listening, speaking and reading, a moderate effect on writing and pronunciation, and a large effect on pragmatics. However, as argued by Lin (2015), the results of the study were tentative, since only one study on pragmatics was incorporated in Lin's (2015) meta-analysis.

Abrams (2008) described the sociopragmatic characteristics of the interactions of L2 learners of German in synchronous CMC sessions to examine whether these interactions offered opportunities for L2 pragmatics development. The learners participated in the whole-class discussions with their classmates, via a virtual classroom, on the topics covered in their course textbook. The CMC interactions were then transcribed and analyzed in terms of (a) opening and closing sequences (greeting and leave-taking phrases and expressions) and (b) patterns of interaction (topic initiation and development, and the activity- or topic-focus of the activity). It was found that CMC triggered authentic learner-learner interactions and, as a result, led to improved sociopragmatic performance. Specifically, learners tended to begin

the discussions, greeted each other, initiated all new topics instead of waiting for the instructor to dominate the discussions, concentrated on the topic rather than the activity, and performed a variety of discourse functions that are not easily accomplished in traditional face-to-face classes.

In a follow-up study, Abrams (2013) analyzed the data gathered from the interactions of German L2 learners via CMC during a six-session period. While documenting the noticeable advantages of interaction through the CMC platform, Abrams argued that the pragmatic features present in the participants' earlier chats seemed to be transferred from their first language (L1) or general interactional skills. However, they were able to use a variety of L2 pragmatic features in the later sessions.

Eslami-Rasekh, et al. (2014) examined the effect of explicit and implicit types of instruction via asynchronous computer-mediated communication (ACMC) on Iranian EFL learners' acquisition of the request speech act. The participants received the instruction through email exchanges with the native graduate students as telecollaborative tutors, who were paired with two or three participants throughout the treatment period. The researchers provided the lesson plans and the tutors delivered and modified them as needed by the students, either through explicit discussion or input enhancement techniques, based on the participants' group assignment. The control group did not receive the explicit/implicit instruction and accomplished their normal classroom activities. The quantitative analysis of the pretest and post-test results as well as the descriptive analysis of the experimental groups' sample emails showed that while both intervention groups outperformed the control group in the post-test, the explicit group appeared to benefit more from CMC pragmatics

instruction. Additionally, the explicit group was found to use the supportive moves for request modifications more frequently.

Mirzaei, et al. (2016) explored the effect of synchronous and asynchronous modes of CMC instruction delivered through social media networks on Iranian EFL Learners' comprehension of implicatures. Three intact classes were randomly assigned to the synchronous CMC, asynchronous CMC, and the control groups. While the two CMC-oriented groups received the instruction via networked platforms in synchronous and asynchronous modes, the control group went through the face-to-face teacher-fronted instruction for eight weeks. The analysis of data gathered from three groups' performances in the pretest and post-test showed that the two experimental groups improved in the post-test; however, the asynchronous group demonstrated more pragmatic gains. The researchers concluded that the affordances associated with different CMC modes might have resulted in differential L2 pragmatics gains.

The affordances offered by technology to L2 pragmatics development have been reported in telecollaboartive contexts as well. Telecollaboration, according to Belz (2003), is an "institutionalized, electronically mediated intercultural communication under the guidance of a languacultural expert (i.e., a teacher) for the purposes of foreign language learning and the development of intercultural competence" (p. 2). Belz (2007) argued that this approach creates numerous discourse options for pragmatics practice and awareness during meaningful interactive exchanges. Evidence supporting the effectiveness of telecollaboration in metapragmatic awareness was provided by Belz and Vyatkina (2005) who investigated the acquisition of modal

particles among English learners of German who assessed their own and their partners' use of the target form during a project-based collaboration via web. The microgenetic analysis of the learners' performances over a nine-week period showed their improvement in metapragmatic awareness and the potentiality of networked intercultural exchanges for "cyber-noticing".

In a similar vein, in a study of L2 learners of German telecollaborating with native professionals during synchronous web conferences, Cunningham and Vyatkina (2012) showed how learners improved in terms of the use of modal verbs and subjunctive mode for polite requesting and establishing social distance, respectively. Finally, Marti and Fernandez (2016) investigated the sociopragmatic awareness of Danish learners of Spanish exposed to synchronous telecollaboration via Skype, reflection sessions in groups, and teacher-fronted explicit instruction, in a blended-learning environment. Each Danish learner was paired with a Spanish student to interact and exchange information, during a four-session period, about the topics chosen previously by the teacher. The audio and video recordings of the telecollaborative interactions and the audio recordings of the reflection sessions were transcribed and the metapragmatic-related episodes were identified and coded. The results revealed the positive effects of telecollaboration, accompanied by reflection and explicit instruction, on sociopragmatic gains. The researchers argued that telecollaboration serves as the first step in blended-learning instructional contexts, since it provides authentic interactional conditions.

As argued by some SLA researchers (e.g., Eslami-Rasekh, et al., 2014; Taguchi & Sykes, 2013), research on the reole of technology mediation in L2 pragmatics acquisition is still inconclusive. Therefore, further studies are

needed to contribute to this field in order to depict a more vivid picture of the type of computer-mediated instructional intervention and the associated outcomes. Moreover, most of the existing research (e.g., Abrams, 2013; Eslami-Rasekh et al., 2014; Marti & Fernandez, 2016) compared the CMC-oriented instruction with non-CMC instructional approaches, employing either synchronous or asynchronous mode, largely ignoring the relative effectiveness of each mode. This study, thus, aims to contribute to the growing literature by addressing the comparative effects of CMC and traditional face-to-face instruction types. Moreover, it fills the gap in the literature by exploring the relative effectiveness of synchronous and asynchronous CMC modes on learners' pragmalinguistic and sociopragmatic knowledge. The research questions specifically addressed are:

1. What is the relative effectiveness of F-F instruction, synchronous, and asynchronous CMC on EFL learners' ILP development?

2. Do synchronous and asynchronous CMC result in varied pragmalinguistic and sociopragmatic gains?

4. Method

4.1. Participants

The participants were the first- and second-semester English-major students in two universities located in East Azarbaijan province, Iran. The results of an ANOVA run on reading comprehension and structure portions of a TOEFL test showed that in terms of their general English proficiency level (pre-intermediate), they were homogeneous (M = 23, SD = 4.67, $p > 0.05$). They were in the age range of 19 to 32 (M = 23.7, SD = 2.47). They had studied English between six to seven years, and none of them had visited

English-speaking countries. The data related to some participants (n = 7) who missed some instructional sessions, failed to take the pre/post-test, and got the extreme scores were discarded from the analysis. So, from the original pool of 123 participants, the data of 106 (*n* = 106, 58 males and 48 females) participants were submitted to analysis.

Normally, in Iranian universities, L2 pragmatics is not taught as a course to EFL learners, and the pragmatic features are focused occasionally when appeared in the lessons. Thus, in this study, inerlanguage pragmatics was taught as an extracurricular module incorporated within the Speaking and Listening course in an intensive-training program. Based on the results of a computer literacy survey, the participants were assigned to one of the three treatment conditions. Those with higher technological literacy were assigned to synchronous CMC (hereafter Syn) or asynchronous CMC (hereafter Asyn) groups, while the participants with lesser or no computer literacy were assigned to the face-to-face instruction (hereafter F-F) group. The Syn group comprised of 38 participants (n = 38) with 22 males and 16 females; the Asyn group consisted of 36 participants (n = 36) with 18 males and 18 females; and the F-F group included 32 participants (n = 32) with 18 males and 14 females.

4.2. Instruments

After ensuring that the participants were homogeneous in terms of their general English proficiency level (based on their TOEFL scores), they filled out a computer literacy questionnaire and a written discourse completion test (WDCT). Since the experimental groups in this study were required to use the computer throughout the treatment, the computer literacy questionnaire was administered to ensure that they had reached a threshold level of the computer

literacy and to eliminate the potential effect of the lack of computer knowledge–as a source of construct-irrelevant variance–on the final outcomes. WDCT pretest and the post-test were also administered to assess the participants' L2 pragmatics knowledge prior to and after the treatment. Each of these instruments is detailed below.

4.2.1. Computer literacy questionnaire

To assess the participants' computer skills, a questionnaire with 38 items, designed by Alavi, Borzabadi, and Dashtestani (2016) was administered to the students. This questionnaire includes items like demographic information, the amount of the students' access to the computer and the purposes for which they use it, whether they have received previous training on the use of the computer, and some open-ended questions. The students were required to answer the items using a 4-point Likert scale, with 1 meaning "not proficient", 2 meaning "fairly proficient", 3 meaning "a little proficient", and 4 meaning "proficient". The internal consistency reliability of the questionnaire, as estimated by Cronbach's alpha coefficient (α = .87), was found to be acceptable.

4.2.2. Written discourse completion test (WDCT)

The elicitation instruments used as the pre/post-test were two versions of a written discourse completion test (WDCT). The original version of the WDCT contained 40 situations selected from previous studies (e.g., Taguchi, 2011; Takimoto, 2009). The selected situations reflected the real-life interactions with a higher likelihood of occurrence like educational affairs and campus life. Minor modifications were made to some items, making the situations more familiar to test takers. As stated in Brown and Levinson's (1987)

"politeness theory", a number of social and situational factors, including the relative power relationship between the interlocutors, the social distance, and the degree of request's imposition affect the realization of requests. Accordingly, all situations were comparable in terms of power and social distance (they addressed a 40-year-old professor with the same gender as the participants, with whom the participants were acquainted), but they varied as to the degree of imposition. As argued by Taguchi (2007), the level of imposition affects learners' perception and production of request strategies, making the request act more or less demanding in some situations than in others.

During the pilot testing, the situations were assessed in terms of the degree of imposition and the authenticity. To this end, 25 learners comparable to the target population in terms of the proficiency level, linguistic, and educational backgrounds were asked to rate the degree of the psychological difficulty they would experience in coping with similar situations, based on a 6-point rating scale, with 1 being the "least difficult" and 6 being the "most difficult". Moreover, following Li (2012), to gauge the authenticity of the situations, they were assessed in terms of their similarity to real life, based on a 6-point rating scale, with 1 meaning " least likely to occur in real life" and 6 being "most likely to occur in real life". To choose the target situations, 20 situations with higher authenticity ratings were selected from among which, 12 situations with the highest and lowest imposition rankings (6 situations for each of the pre-post-test and 3 situations for each of the high- and low-imposition categories) were chosen as the pre/post-test items. While taking the

test, the participants were required to read the descriptions of the situations and write what they would say in similar situations.

The rating scale employed for the WDCTs included two parts for assessing the pragmalinguistic accuracy and sociopragmatic appropriateness. Linguistic accuracy was assessed by allocating two points if the response was lexically and grammatically accurate, one point if it was partially correct, and no point if it was grammatically or lexically inaccurate. The sociopragmatic appropriateness was assessed by a 5-point Likert scale with 1 meaning "very inappropriate" and 5 meaning "very appropriate". So, the total score for pragmalinguistic and sociopragmatic pre/post-test was 12 (2 points × 6 situations) and 30 (5 points × 6 situations), respectively.

Regarding the validity and reliability measures, the internal consistency of the WDCT was measured and found to be acceptable, as indicated by a Cronbach's alpha coefficient of .81. To ensure the inter-rater reliability, the performances in the WDCT pre/post-test were independently scored by the researcher and an EFL specialist. The inter-rater reliability indices for the pretest and post-test were found to be .83 and .89, suggesting a high inter-rater agreement.

4.3. Procedure

Prior to the treatment, based on their computer literacy, three classes were assigned to Syn, Asyn, and F-F groups and were familiarized with the materials and the type of instruction. The pretest was administered to establish the baseline level of the instructed speech act (high and low imposition requests). Two days after the treatment, the WDCT post-test was administered to assess the effect of the treatment. The treatment lasted for four weeks, eight

sessions of 90 minutes, with three sessions for each of the high- and low-imposition requests and two sessions for reviewing and recycling what they had learned in previous sessions. In each of the instructional sessions, all groups received the explicit metapragmatic instruction on requests and then watched two computerized video clips on requests. Following this, the participants engaged in a discussion about the video clips, with only the mode of the discussion being different: synchronous text-based chat (Syn group), asynchronous text-based chat (Asyn group), and face-to-face discussion.

To receive the metapragmatic instruction, all participants attended the laboratory equipped with individual access to PCs. The explicit instruction centered on introduction to request head act, strategies used for the performance of requests, and the role of alerters and supportive moves. Direct and indirect types of requesting were also discussed. Moreover, politeness formula as well as the syntactic and lexical modifiers, which mitigate the force of requests, were brought to focus.

Following the metaprgamatic instruction, two video clips uploaded earlier by the teacher (researcher) on PCs were played. The video clips depicted the request act performed by English native speakers in authentic situations. For a better comprehension of the video clips, the transcripts of the dialogues in the videos were available on the classroom projector's screen. The students were reminded to replay each video as many times as they wished. Having watched the video clips, some worksheets were distributed among the participants, including some prescribed questions about the video clips and hypothetical situations for which they were required to create their own dialogue. Each participant was paired with a partner to answer the questions and to create

their own dialogue. The questions centered on the interlocutors' relative power and social distance, the degree of the imposition of the situations, and the syntactic and lexical aspects of the expressions used in each situation. Prior to the pair task, the participants were reminded to use the target language for interaction. Dialogue construction task was chosen because the pragmatic, lexical, and grammatical requirements needed for accomplishing such a production task engage the learners in a deeper level of processing (Swain & Suzuki, 2010) and draw their attention to pragmatic as well as the lexicosyntactic features. Each pair task lasted about 15 minutes. During the task completion phase, while the Syn and F-F groups remained in the laboratory to do the tasks–by a written chat through the computer interface or during a face-to-face discussion–the Asyn group left the laboratory to do the same tasks through asynchronous email exchanges. There were no limitations in the number of email exchanges. The Asyn group was reminded not to use any external pedagogic resources during the task accomplishment. They had an equal amount of time as the Syn group to do the tasks. They were also required to forward their emails to the instructor for feedback. Table 1 summarizes the study design.

Insert Table 1 here.

5. Data analysis

The data for this study were gathered from the WDCT pre/post-test. According to Ellis (2008), the research design that allows for triangulation is propitious in shedding light on the complex relationship that may exist between the variables. For the purpose of the triangulation and thereby

enhancing the external validity of the findings, the qualitative data (paired interactions) were collected along with the quantitative one.

The data were analyzed in two phases. In the first phase, a one-way between-group analysis of covariance (ANCOVA) was run to compare the means of three groups' post-test scores on pragmalinguistic and sociopragmatic measures. The independent variable was the type of instruction (F-F, synchronous, and asynchronous CMC) and the dependent variable was the students' WDCT post-test scores. Covariate was the students' pretest scores, which controlled the pragmatic ability of the students prior to the treatment. Post hoc pairwise comparisons were also performed to locate where the difference between the means lies.

In the second phase, drawing upon the coding framework for the request head act proposed by Cross-Cultural Speech Act Realization Project (CCSARP), the corpus of request expressions gathered from data were coded. In CCSARP, a range of strategies in realizing the requests, levels of directness as well as semantic formulas meeting these strategies have been proposed by Blum-Kulka, House, and Kasper (1989). Moreover, the syntactic and lexical modifiers which mitigate the face-threatening nature of requests were specified (See Appendices A and B for the list of request strategies as well as the syntactic and lexical modifiers in CCSARP).

The coding of the data was done by the researcher and an EFL specialist trained on coding. The internal consistency reliability estimates for the two coders were acceptable (.83 for coder 1 and .77 for coder 2). The inter-coder reliability was also estimated and the correlation ($r = .83$, $p < 0.05$) was found to be moderate. After coding the data, following Zhu (2012), the frequency of

indirect requests in upward situations (where the listener is of a higher power and social distance) and the number of syntactic and lexical devices used to soften the request were regarded as the indices for pragmalinguistic competence. The sociopragmatic competence was also measured by the directness/indirectness levels across request impositions. Each of these categories are detailed in the following sections.

6. Results

6.1. Analysis of the WDCT data

To address the research questions, the three groups' pragmalinguistic and sociopragmatic post-test scores were compared. Table 2 shows the descriptive statistics for the scores of three groups. As shown, the assumption of the normality of the data for ANCOVA was met ($p > 0.05$). A one-way between-groups ANCOVA was run to compare the pragmalinguistic and sociopragmatic post-test scores across the three groups (Table 3).

Insert Table 2 here.

Insert Table 3 here.

As shown by Table 3, significant differences exist between the post-test scores of three groups in pragmalinguistic ($F = 12.43$, $p < 0.05$) and sociopragmatic ($F = 9.54$, $p < 0.05$) measures. The effect sizes were found to be large (eta squared = .71 and .69 respectively). In order to match the groups one-by-one and locate exactly where the difference among the groups lies, post hoc pairwise comparison was run (Table 4).

Insert Table 4 here.

As illustrated in Table 4, significant effects for synchronous and asynchronous CMC instruction types were observed. Both Syn and Asyn

groups outperformed the F-F group in pragmalinguistic (Syn and F-F groups' mean difference = 2.05, $p < 0.05$; Asyn and F-F groups' mean difference = 2.57, $p < 0.05$) and sociopragmatic measures (Syn and F-F groups' mean difference = 8.39, $p < 0.05$; Asyn and F-F groups' mean difference = 10.28, $p < 0.05$). A further finding is that not a significant difference was found between the post-test scores of the Syn and Asyn groups in pragmalinguistic (mean difference = 0.52, $p > 0.05$) and sociopragmatic (mean difference = 1.89, $p > 0.05$) measures.

6.2. Analysis of the request expressions

In the second phase of the data analysis, a corpus of request data [n = 444 (74 participants × 6 situations)] gathered from WDCT performances of Syn and Asyn groups were coded and analyzed in terms of the measures offered by Zhu (2012) for pragmalinguistic and sociopragmatic competences.

6.2.1. Prgamalinguitsic competence

Pragmalinguistic competence was measured by the frequency of indirect strategies in upward requests and the number of syntactic and lexical devices. Requests were analyzed for the head act, which was coded as conventionally direct, conventionally indirect, and nonconventionally indirect strategies. Table 5 shows the frequency of request strategies used by Syn and Asyn groups.

Sample request strategies from the data:

(1) Conventionally direct Strategy: *I would like to ask you to lend me your book.*

(2) Conventionally indirect strategy: *Would it be possible for you to give me some more time to finish my project?*

(3) Nonconventionally indirect strategy: *I have problem understanding this issue* (asking the teacher to elaborate on the topic).

Insert Table 5 here.

As suggested by Table 5, the Syn group favored conventional indirect strategies (43.42%) followed by non-conventional indirect strategies (32.89%) and conventional direct strategies (23.68%). With regard to the Asyn group, the most frequently used strategy was conventional indirect strategies (50%), followed by conventional direct strategies (27.77%) and non-conventional indirect strategies (22.22%). In other words, the Syn group used the indirect strategies 174 times (76.31%) whereas the Asyn group used them 156 times (72.22%). This means that both groups used the indirect strategies more frequently than the direct ones. Independent samples *t*-test was run to compare the two groups' mean scores in the use of indirect strategies (Table 6).

Insert Table 6 here.

As shown in Table 6, there is not a significant difference between Syn and Asyn groups in the use of indirect strategies in the WDCT post-test ($t = 10.53$, $p > 0.05$).

Following Zhu (2012), a further measure for assessing the pragmalinguistic competence is the frequency of syntactic and lexical devices used to mitigate the impositive force of requests. Table 7 shows the frequency of syntactic and lexical devices used by Syn and Asyn groups.

Insert Table 7 here.

As illustrated by Table 7, the Asyn group was found to use the modifiers more frequently (57.7% syntactic and 42% lexical devices). Put another way, the total frequency of the use of these devices was 41.32 for the Syn group,

while it was 58.67 for the Asyn group. Independent samples *t*-test was conducted to compare the mean scores of the two groups in the use of syntactic and lexical devices (Table 8).

Insert Table 8 here.

Table 8 demonstrates that a significant difference existed between the Syn and Asyn groups in the use of syntactic ($t = 9.24$, $p < 0.05$) and lexical devices ($t = 10.31$, $p < 0.05$). This means that engagement in asynchronous CMC-oriented instructional activities resulted in better performance on, at least one of the subcomponents of pragmalinguistic competence, namely lexico-syntactic modification devices.

6.2.2. Sociopragmatic competence

The level of directness/indirectness of a request is contingent upon a number of social variables, including the interlocutors' power, social distance, and the degree of imposition. In this study, the power relations and the social distance were comparable in all situations; thus, the analysis centered on the level of imposition which differed across situations. Following Zhu (2012), the level of directness/indirectness across request impositions was regarded as a measure of the sociopragmatic competence. Accordingly, a within-group comparison was run for each of the Syn and Asyn groups for the use of indirect strategies in high-imposition and low-imposition situations. Tables 9 and 10 demonstrate the results of *t*-tests run for each group.

Insert Table 9 here.

Insert Table 10 here.

As suggested by Table 9, there was a significant difference in the requests' level of directness across high- and low-imposition situations in the Syn group

(t = 10.23, p < 0.05). In other words, the Syn group varied the directness levels of requests when encountered with situations different in terms of imposition levels. With regard to the Asyn group, not a significant difference was found in the use of direct/indirect requestive strategies across high and low levels of imposition (t = .87, p > 0.05). The Asyn group failed to assess the imposition rankings of some situations and tended to employ rather similar levels of directness across different situations. Thus, it can be concluded that exposure to synchronous CMC-oriented instruction resulted in a better sociopragmatic performance than the asynchronous approach.

7. Discussion

The aim of this study was to examine the relative effectiveness of each of the synchronous and asynchronous CMC modes, compared with F-F instruction, on ILP development. Moreover, the differential effects of each of the instructional types on pragmalinguistic and sociopragmatic competences were examined. The findings showed the positive impact of CMC-oriented instruction compared with F-F instruction on EFL learners' acquisition of request acts; however, not a significant difference was found between the two CMC instructional modes. Moreover, it was found that while both the Syn and Asyn groups generated roughly similar frequencies of indirect speech acts, the Asyn group tended to use the syntactic and lexical modifiers more frequently. The Syn group, on the other hand, tended to vary their request strategies more than the other group in accordance with the levels of imposition.

The outperformance of the CMC-oriented groups compared with the F-F group is consistent with the findings reported in some previous studies (e.g., Lin, 2015; Mirzaei & Esmaeili, 2013; Sykes, 2005). These studies provided

evidence that online instructional platforms serve as unique venues for L2 acquisition in general and ILP development in particular. According to Eslami-Rasekh et al. (2014), CMC has unique features, enabling the acquisition of L2 pragmatic features: provision of authentic instructional materials, learners' access to a variety of pragmatic and discourse features, opportunities for meaningful interactions, retrievable evidence and data, and effectiveness of pedagogical interventions in L2 pragmatics. Coyle and Reverte (2017) also argued that during an online text-based chat, learners can generate, monitor, and modify their output based on the feedback they receive from their partners, and as a result, are likely to arrive at more accurate outcomes. According to Abrams (2008), through participation in the meaning-focused activities via CMC, learners raise their awareness of the pragmatic features and begin to recognize the "microlevel interactional patterns of a speech community" and to "adapt their discourse effectively to function in these speech communities" (p.16).

The findings can also be interpreted in the light of Vygotskian (1978) stance and the assumption of the computer as a meditational means. Within the sociocultural framework, online instructional tools offer affordances for language learning where to accomplish a task or resolve a linguistic problem, participants are dependent on each other rather than the teacher, and hence more collaboration is likely to occur among the learners. According to Zeng (2017), the text-based discourse enabled by CMC provides favorable conditions for the emergence of the collaborative dialogue among the learners, which helps them focus simultaneously on the target form and meaning. To answer the prescribed questions and to accomplish the dialogue reconstruction

tasks, the participants needed to engage in collaborative interaction and to reach the final solution through a joint endeavor, via computer interface as a mediational means. In so doing, each of the synchronous and asynchronous text chats served as a "cognitive amplifier" (Warschauer, 1997) or a "thinking device" (Alford & Pachler, 2007) used by the participants to arrive at the final outcome by a collaborative effort.

A further finding relates to the differential effects of CMC modes of instruction on pragmalinguistic and sociopragmatic competences. While both groups performed similarly in the frequency of indirect speech acts produced, the Asyn group was found to generate more lexical and syntactic devices. The Syn group, on the other hand, revealed more variations in the use of request strategies across levels of imposition. The differential performance of the two groups in these measures can be attributable to the nature of the two types of instruction and the unique communication possibilities they offer. Synchronous CMC, according to Baron (2000), constructs a process-oriented discourse, with the messages exchanged in real time. It suits a content that calls for a more give-and-take of ideas. Accordingly, within a text-based discussion forum, the participants of the Syn group could exchange their idea, monitor their partners' reactions to the message, and reformulate it, if needed. In this way, they were able to work out the best response to the given situation.

On the other hand, in the asynchronous mode, the linguistic output produced is likely to be richer in terms of the lexical and syntactic features, due to having more planning time prior to production of the message. Baron (2000) argued that the asynchronous CMC generates a product-oriented

output in which messages are deliberated upon before they are produced. Since, the production of language in asynchronous cyber-contexts is not subject to time and place limitations, and it is not disrupted by intervening factors prevalent in traditional face-to-face classes, as attested by Hurd (2006), learners can produce the language at their own pace, discuss their understanding of the language with their partner, and revise their responses. The Asyn group's production of a lexico-grammatically rich language thus may be attributable to the pre-task planning time and opportunities for revision and modification of responses.

8. Conclusion

This study found positive effects of synchronous and asynchronous CMC instructional types on L2 learners' ILP development. It is suggested that the teachers, practitioners, curriculum developers, and courseware designers use the CMC platform to offer rich pedagogical opportunities for learners. Nevertheless, the decision on which CMC mode (synchronous or asynchronous) to use is dependent upon a number of factors. According to Fitzpatrick and Donnelly (2010), factors including individual dimensions, preferences, aims, purposes, and institutional and pedagogical objectives play a fundamental role in the selection of either asynchronous or synchronous CMC modes. As stated by Blake (2008), for the technology to realize the ultimate educational goals, instructors' computer functional competence (the knowledge of how to use technological devices) is not sufficient, but rather they should be sufficiently capable in terms of the critical (the knowledge of what tools are good for) and rhetorical competences (recognition of how specific tools alter the learning environment).

The limitations of this study should be acknowledged. First, the implementation of CMC for L2 learning in Iranian educational institutions has not been "normalized" (Chambers & Bax, 2006, p. 466) yet. In this study, delivering the instruction through a technological interface served as a novel experience to the participants, rendering them either enthusiastic or reluctant to adopt such a variation in their routine educational practices. As the uncontrolled variables, the participants' attitudes toward technology, motivations, and stress might have affected the results of the study. Second, since L2 pragmatics had not been included in the university's course agenda, the treatment sessions allocated were short; a longer treatment was likely to result in more reliable outcomes. Thirdly, as asserted by Jeon and Kaya (2006), the methodologies used for data collection in the field of L2 pragmatics are disputable. Since few measures have been developed so far for operationalizing and assessing the pragmalinguistic and sociopragmatic competences, the researcher could employ the few already-existing measures. The measure of sociopragmatic competence designed by Zhu (2012) was used in this study, which controlled power relations and social distance, and only focused on the degree of imposition, not considering the participants' ability to make a distinction between different situations with different interlocutors. Employing more robust measures is likely to result in firmer findings. Finally, three items for each of the low high- and low-imposition situations were incorporated in the pre/post-test. Apparently, increasing the number of test items would result in valid inferences and is likely to increase the external validity of the findings.

This study provided evidence on the affordances offered by CMC in developing the pragmatic competence of EFL learners. Given that research focusing on the integration of CMC in language learning, specifically on the acquisition of pragmatics, is not mature yet, further studies are needed to develop a better understanding of the interface between L2 instructional approaches and technology. Future research may address the incorporation of different CMC modes and the associated L2 pragmatics gains. Employing a larger population, using more rigid measures, and empowering the educational institutions' online infrastructures to minimize the disrupting and construct-irrelevant factors in future studies is likely to increase the reliability and thus the external validity of the findings. Considering the scarcity of developmental studies in the ILP field, further studies are also needed to trace the trajectory of L2 pragmatics development through microgenetic analysis.

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Appendices

Appendix A

Request strategies (adapted from Blum-Kulka et al., 1989)

Level of directness	Strategy	Semantic formula
Direct	1. Mood derivable	You shut up.
	2. Performative	I'm telling you to shut up.
	3. Hedged performative	I would like to ask you to shut up.
	4. Locution derivable	I want you to shut up.
Conventionally indirect	5. Suggestory formula	Let's play a game

	6. Query-preparatory	Can you draw a horse for me?
Non-conventionally indirect	7. Strong hint	This game is boring.
	8. Mild	We've been playing this game

Appendix B

The list of syntactic and lexical modifiers (adapted from Blum-Kulka et al., 1989)

Syntactic modifiers:

(1) Past tense *(e.g, I was wondering whether you could write me a recommendation letter.)*

(2) Progressive aspect *(e.g, I'm hoping you let me leave the class early.)*

(3) Embedding *(e.g, I would appreciate it if you could write me a recommendation letter.)*

Lexical modifiers:

(1) Polite marker *(e.g, Please let me know where you are on the campus.)*

(2) Subjectiviser *(e.g, I want to know if I can hand in my project next week?)*

(3) Consultative device *(e.g, Would it be possible for you to write me a recommendation letter?)*

(4) Downtoner *(e.g, Could you possibly give me a copy of the power point you used today?)*

(5) Understater *(e.g, May I leave the class a bit earlier?)*

Table 1

The study design

	Syn group	Asyn group	F-F group
Sessions 1-3	Pretest of WDCT -Metapragmatic instruction on high-imposition requests -Watching videos -Accomplishing tasks in pairs via synchronous text-based chat	Pretest of WDCT -Metapragmatic instruction on high-imposition requests -Watching videos -Accomplishing tasks in pairs via asynchronous text-based chat	Pretest of WDCT -Metapragmatic instruction on high-imposition requests -Watching videos -Accomplishing tasks in pairs via face-to-face discussion
Sessions 4-6	Similar to sessions 1-3, but working on low-imposition requests	Similar to sessions 1-3, but working on low-imposition requests	Similar to sessions 1-3, but working on low-imposition requests
Sessions 7-8	Reviewing and recycling the previous sessions Post-test of WDCT	Reviewing and recycling the previous sessions Post-test of WDCT	Reviewing and recycling the previous sessions Post-test of WDCT

Table 2

Descriptive statistics for the pretest and post-test scores of three groups

	Group	Test	*n*	*M*	*SD*	Skewness	Kurtosis
Pragmalinguistic	Syn	Pre.	38	5.01	2.6	.078	1.23
test		Post.	38	9.34	3.8	.081	.07
	Asyn	Pre.	36	4.81	3.0	.097	.09
		Post.	36	9.87	4.9	.061	1.06
	F-F	Pre.	32	7.29	2.7	1.02	.29
		Post.	32	9.87	4.7	.072	.18
Sociopragmatic	Syn.	Pre.	38	14.23	2.1	.048	.056
test		Post.	38	23.12	1.9	1.41	.081
	Asyn	Pre.	36	13.84	3.2	.045	.09
		Post.	36	25.01	3.1	.012	1.27
	F-F	Pre.	32	13.67	2.7	1.17	1.06
		Post.	32	19.73	3.7	0.87	.043

Note. Pre. = Pretest; Post. = Post-test

Table 3

ANCOVA test for three groups' pragmalinguistic and sociopragmatic post-test scores

		SS	*df*	Mean Square	*F*	Sig.
Prgamalinguistic test	Between groups	273	8	67.01	12.43	0.000
	Within groups	561	51	8.47		
	Total	834	59	75.48		
Sociopragmatic Test	Between groups	618	5	107.31	9.54	0.000
	Within groups	1023	24	43.74		
	Total	1641	29	151.05		

Note. The F-ratio is significant at the 0.05 level.

Table 4

Post hoc pairwise comparisons

	Group	Mean difference	*SEM*	95% confidence interval		Sig.
				Upper bound	Lower bound	
Pragmalinguistic test	Syn F-F	2.05*	3.14	1.12	5.21	0.000
	Asyn F-F	2.57*	2.73	0.77	6.14	0.000
	Syn Asyn	-0.52	2.16	0.61	5.12	0.071
Sociopragmatic test	Syn F-F	8.39*	2.08	5.27	10.81	0.000
	Asyn F-F	10.28*	3.41	7.19	12.63	0.000
	Syn Asyn	-1.89	3.03	0.51	3.84	0.064

Note. $p < 0.05$

Table 5

Frequencies of request strategies used by Syn and Asyn groups

Group	Conventionally direct strategies	Conventionally indirect strategies	Non-conventionally indirect strategies	Total
Syn.	54(23.68%)	99(43.42%)	75(32.89%)	228
Asyn.	60(27.77%)	108(50%)	48(22.22%)	216
Total	114(25.67%)	207(46.62%)	123(27.70%)	444

Table 6

Independent samples *t*-test for the use of indirect strategies by Syn and Asyn groups

Groups	*M*	*SD*	*t*	*p*
Syn.	4.57	.93	10.53	.072
Asyn.	4.33	1.12		

Table 7

The frequency of syntactic and lexical devices used by Syn and Asyn groups

Group	Syntactic devices	Lexical devices	Total
Syn.	81(54%)	69 (46%)	150 (41.32%)
Asyn.	123(57.7%)	90 (42%)	213(58.67%)
Total	204 (56.19%)	159(43.80%)	363(100%)

Table 8

Independent samples *t*-test for the use of syntactic and lexical devices in Syn and Asyn groups

	Groups	*n*	*SD*	*t*	*p*
Syntactic devices	Syn.	81	1.53	9.24	.001*
	Asyn.	123	.89		
Lexical devices	Syn.	69	.76	10.31	.003*
	Asyn.	90	1.12		

Note. n = number of syntactic/lexical devices used.

Table 9

T-test for the use of indirect strategies across request impositions by Syn group

Imposition level	*n*	*M*	*SD*	*t*	*P*
High	123	1.07	2.73	10.23	0.00
Low	51	0.44	2.69		

Note. n = number of indirect strategies

Table 10

T-test for the use of indirect strategies across request impositions by Asyn group

Imposition level	*n*	*M*	*SD*	*t*	*P*
High	84	0.77	.97	.87	0.07
Low	72	0.66	1.03		

Note. n = number of indirect strategies

Highlights

- Both the Syn and Asyn groups generated roughly similar frequencies of indirect speech acts.
- The Asyn group tended to use the syntactic and lexical modifiers more frequently.
- The Syn group tended to vary their request strategies more in accordance with the levels of imposition.